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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,469	01/09/2002	David B. Layzell	1998-016-08US	2590

7590 08/14/2003

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CANADA

EXAMINER

GELLNER, JEFFREY L

ART UNIT PAPER NUMBER

3643

DATE MAILED: 08/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/040,469	LAYZELL ET AL.	
	Examiner	Art Unit	
	Jeffrey L. Gellner	3643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 May 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 and 24-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 9-12, 18, 24 and 25 is/are rejected.
- 7) ☒ Claim(s) 7, 8, 13-17, 19-21, 26 and 27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>6</u> . | 6) <input type="checkbox"/> Other:  |

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## **DETAILED ACTION**

### ***Information Disclosure Statement***

Examiner has supplied another copy of Applicant's 1449 showing that all the references have been considered by the Examiner.

### ***Drawings***

The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on 22 May 2003 have been approved.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. §102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6 and 18 are rejected under 35 U.S.C. §102(b) as being anticipated by Spencer (US 1,677,153).

As to Claim 1, Spencer discloses a method of enhancing plant growth (page 1 lines 1-4) comprising treating soil (page 2 lines 54-60) with hydrogen gas ("air" of page 2 lines 50-53; air defined as inherently containing hydrogen gas, as per, Applicant's remarks in paper no. 13, page 9, 1<sup>st</sup> complete para.), and growing a plant in the soil (see Fig. 1).

As to Claim 2, Spencer further discloses combining the soil treated with hydrogen (defined as soil lying below the truck cab in Fig. 1) with soil not treated with hydrogen gas

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(defined as soil surround tree 23 in Fig. 1), and growing a plant (23 of Fig. 1) in the combined soil.

As to Claim 3, Spencer further discloses the treated soil between 5 and 100%, by volume (Examiner estimates that 50% of the soil in Fig. has been treated).

As to Claim 4, Spencer further discloses a plant growing (Fig. 1).

As to Claim 5, Spencer further discloses a plant that is planted in soil not treated (23 of Fig. 1) adjacent a volume of soil treated (soil under truck's cab in Fig. 1).

As to Claim 6, Spencer further discloses that the soil treated is soil in which the plant is already growing (page 2 lines 104-113).

As to Claim 18, Spencer further discloses the hydrogen gas provided to the soil via tubing or hollow probes placed in the soil (17 of Fig. 1).

Claims 1, 9-12, 24, and 25 are rejected under 35 U.S.C. §102(b) as being anticipated by Eisbrenner et al. (document 3 under Other Publications on Applicant's 1449).

As to Claims 1, 9-12, 24, and 25, Eisbrenner et al. discloses a method of enhancing plant growth (page 125 3<sup>rd</sup> para and Table 1 of page 126) comprising treating soil (page 125 3<sup>rd</sup> para and Table 1 of page 126 with the soil being treated in that the legumes with bacteria were purposefully placed in the soil) page 2 lines 54-60 in that inherent with use of Hup+ strains) with hydrogen gas (inherent with use of Hup+ strains), and growing a plant in the soil (page 125 3<sup>rd</sup> para and Table 1 of page 126; since not all the soil would be treated with the hydrogen gas some of the soil would be not treated).

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***Allowable Subject Matter***

Claims 7, 8, 13-17, 19-21, 26, and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

Applicant's arguments with respect to claims 1-21 and 24-27 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

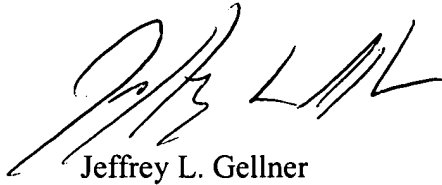
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Baxter and Zinck disclose in the prior art the method of supplying hydrogen gas the soil via supplying air.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Jeffrey L. Gellner whose phone number is 703.305.0053. The Examiner can normally be reached Monday through Thursday from 8:30 am to 4:00 pm. The Examiner can also be reached on alternate Fridays.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, Peter Poon, can be reached at 703.308.2574. The fax phone numbers for the Technology Center where this application or proceeding is assigned are 703.305.7687, 703.305.3597, and 703.306.4195.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.308.1113.

A handwritten signature in black ink, appearing to read 'JL Gellner', is positioned above the printed name.

Jeffrey L. Gellner